

What is claimed is:

1. An image processing apparatus comprising:  
5 an image bearing surface adapted to receive electrostatically charged toner;  
a cleaning brush adapted to remove waste particles from said image bearing surface;  
a detone roller adapted to remove said waste particles from said  
10 cleaning brush; and  
a speed controller adapted to maintain a rotational speed of said cleaning brush above a minimum speed below which said waste particles would not be removed from said image bearing surface and below a maximum speed above which said waste particles would be thrown from said cleaning brush.  
15
2. The image processing apparatus of claim 1, wherein said image bearing surface comprises a charged photoconductive drum.
3. The image processing apparatus of claim 1, wherein said  
20 image bearing surface comprises an intermediate transfer member held at a predetermined potential.
4. The image processing apparatus of claim 1, further comprising an intermediate transfer member adapted to receive said  
25 electrostatically charged toner from said image bearing surface by contacting said image bearing surface.
5. The image processing apparatus in claim 4, wherein said image bearing surface comprises a charged drum.

30

10079987-002302

6. The image processing apparatus in claim 4, wherein said intermediate transfer member comprises a charged drum.

7. The image processing apparatus in claim 4, wherein said intermediate transfer member includes a second detone roller, a second cleaning brush and a second speed controller.

8. An image processing apparatus comprising:  
a charged photoconductive drum adapted to receive electrostatically charged toner;  
a cleaning brush adapted to remove waste particles from said charged photoconductive drum;  
a detone roller adapted to remove said waste particles from said cleaning brush; and  
a speed controller adapted to maintain a rotational speed of said cleaning brush above a minimum speed below which said waste particles would not be removed from said charged photoconductive drum and below a maximum speed above which said waste particles would be thrown from said cleaning brush.

9. The image processing apparatus of claim 8, wherein said charged photoconductive drum comprises a transfer member held at a predetermined potential.

10. The image processing apparatus of claim 8, further comprising an intermediate transfer member adapted to receive said electrostatically charged toner from said charged photoconductive drum by contacting said charged photoconductive drum.

11. The image processing apparatus in claim 10, wherein said intermediate transfer member comprises a second charged drum.

12. The image processing apparatus in claim 10, wherein said intermediate transfer member includes a second detone roller, a second cleaning brush and a second speed controller.

5

13. A method of reducing airborne waste particles in a cleaner assembly used to clean an image processing apparatus, said method comprising:  
providing a speed controller adapted to maintain a rotational speed of a cleaning brush within said cleaner assembly; and

10

controlling said rotational speed to be above a minimum speed below which said waste particles would not be removed from an image bearing surface and below a maximum speed above which said waste particles would be thrown from said cleaning brush.

15

14. The method in claim 13, further comprising:  
providing said image bearing surface, wherein said image bearing surface is adapted to receive electrostatically charged toner;

providing said cleaning brush, wherein said cleaning brush is adapted to remove waste particles from said image bearing surface; and

20

providing a detone roller adapted to remove said waste particles from said cleaning brush.

15. The method of claim 14, wherein said image bearing surface comprises a charged photoconductive drum.

25

16. The method of claim 14, wherein said image bearing surface comprises an intermediate transfer member held at a predetermined potential.

17. The method of claim 14, further comprising providing an intermediate transfer member adapted to receive said electrostatically charged toner from said image bearing surface by contacting said image bearing surface.

5

18. The method in claim 17, wherein said image bearing surface comprises a charged drum.

19. The method in claim 17, wherein said intermediate transfer member comprises a charged drum.

10

20. The method in claim 17, wherein said intermediate transfer member includes a second detone roller, a second cleaning brush and a second speed controller.

15

21. A method of reducing airborne waste particles in a cleaner assembly used to clean an image processing apparatus, said method comprising:  
providing an image bearing surface adapted to receive electrostatically charged toner;

20

providing a cleaning brush adapted to remove waste particles from said image bearing surface;

providing a detone roller adapted to remove said waste particles from said cleaning brush;

25

providing a speed controller adapted to maintain a rotational speed of said cleaning brush; and

controlling said rotational speed to be above a minimum speed below which said waste particles would not be removed from said image bearing surface and below a maximum speed above which said waste particles would be thrown from said cleaning brush.

30

10079987.022102

22. The method of claim 21, wherein said image bearing surface comprises a charged photoconductive drum.

5 23. The method of claim 21, wherein said image bearing surface comprises an intermediate transfer member held at a predetermined potential.

10 24. The method of claim 21, further comprising providing an intermediate transfer member adapted to receive said electrostatically charged toner from said image bearing surface by contacting said image bearing surface.

15 25. The method in claim 24, wherein said image bearing surface comprises a charged drum.

26. The method in claim 24, wherein said intermediate transfer member comprises a charged drum.

20 27. The method in claim 24, wherein said intermediate transfer member includes a second detone roller, a second cleaning brush and a second speed controller.

20122078660007 10079987-022100